

AMENDMENT

Please amend the application as indicated hereafter.

To the Claims:

Claim 1 (currently amended) A serial-protocol panel display system, suitable for use in a panel display apparatus, comprising:

a pixel-array unit;

a plurality of gate drivers and source drivers, used for driving the pixel-array unit to display image; and

a video graphic adapter (VGA) unit, according to a serial protocol, to export a serial-protocol image display signal and a clock signal to a corresponding one of the gate drivers and one of the source drivers,

wherein the gate and source drivers respectively decode the serial-protocol image display signal, so as to obtain a plurality of input signals, and to drive pixels of the pixel-array unit.

Claim 2 (currently amended) The serial-protocol panel display system of claim 1, further comprising a connector, coupled between the VGA unit and the gate and source drivers.

Claim 3 (currently amended) The serial-protocol panel display system of claim 1, further comprising a gamma correction unit, to provide a color management information

to a portion of the source drivers.

Claim 4 (original) The serial-protocol panel display system of claim 1, further comprising a power source unit, to provide a plurality of voltage levels for use in the panel display system.

Claim 5 (canceled)

Claim 6 (currently amended) The serial-protocol panel display system of claim 51, each of the source drivers includes:

a source input interface, receiving the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the source drivers, and are used for decoding out a plurality of source input signals in the input signals; and

a state-in-the-art source driver, respectively receiving the source input signals.

Claim 7 (original) The serial-protocol panel display system of claim 6, wherein the source input interface comprises:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the source input signals and exporting to the state-in-the-art source driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the source drivers, and coupled with the decoding unit for exporting a decoded color information and the clock signal to the state-in-the-art source driver.

Claim 8 (original) The serial-protocol panel display system of claim 6, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 9 (currently amended) The serial-protocol panel display system of claim 51, wherein each of the gate drivers includes:

a gate input interface, receiving at least a portion of the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the gate drivers, and are used for decoding out a plurality of gate input signals in the input signals; and

a state-in-the-art gate driver, respectively receiving the gate input signals.

Claim 10 (original) The serial-protocol panel display system of claim 9, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 11 (original) The serial-protocol panel display system of claim 10, wherein the gate input interface includes:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the gate input signals and exporting to the state-in-the-art gate driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the gate drivers, and coupled with the decoding unit for exporting a clock signal to the state-in-the-art gate driver.

Claim 12 (original) The serial-protocol panel display system of claim 1, wherein the VGA unit includes:

a VGA chip; and
a protocol encoder, coupled with the VGA chip for encoding, and exporting the serial-protocol image display signal and clock signal.

Claim 13 (canceled)

Claim 14 (canceled)

Claim 15 (original) A gate driver, suitable for use in a panel display apparatus to drive corresponding pixels, comprising:

a gate input interface, receiving a serial-protocol image display signal and a clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the gate driver, and are used for decoding out a

plurality of gate input signals; and
a state-in-the-art gate driver, respectively receiving the gate input signals.

Claim 16 (currently amended) The gate driver of claim 15, wherein the gate input interface includes:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the gate input signals and exporting to the state-in-the-art source gate driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the gate driver, and coupled with the decoding unit for exporting the clock signal to the state-in-the-art gate driver.

Claim 17 (currently amended) An A video graphic adapter (VGA), suitable for use in a panel display apparatus to receive image control signals, comprising:

a VGA chip, for receiving an image control signal; and
a protocol decoder encoder, coupled with the VGA chip for encoding, and exporting a serial-protocol image display signal and a clock signal.

Claim 18 (currently amended) A serial-protocol panel display method, comprising:
receiving an image control signal and a clock signal;
encoding the image control signal into a serial-protocol image display signal,
according to a serial protocol;

sequentially transmitting the serial-protocol image display signal and the clock signal to a plurality of first source drivers;

sequentially transmitting at least a portion of the serial-protocol image display signal and the clock signal to a plurality of second gate drivers;

decoding the serial-protocol image display signal into a first set of control signals and a color information in each of the first source drivers, used for pixel display;

decoding the serial-protocol image display signal into a second set of control signals in each of the second gate drivers; and

driving the corresponding pixels, according to the first set of control signals, the second set of control signal, and the color information.

Claim 19 (New). A serial-protocol panel display system, suitable for use in a panel display apparatus, comprising:

a pixel-array unit;

a plurality of drivers, used for driving the pixel-array unit to display image; and

a video graphic adapter (VGA) unit, according to a serial protocol, to export a serial-protocol signal and a clock signal to a corresponding one of the drivers,

wherein the drivers decode the serial-protocol signal, so as to obtain a plurality of image signals and control signals, and to drive pixels of the pixel-array unit.

Claim 20 (New) The serial-protocol panel display system of claim 19, further comprising a connector, coupled between the VGA unit and the drivers.

Claim 21 (New) The serial-protocol panel display system of claim 19, further comprising a gamma correction unit, to provide a color management information to the driver.

Claim 22 (New) The serial-protocol panel display system of claim 19, further comprising a power source unit, to provide a plurality of voltage levels for use in the panel display system.

Claim 23 (New) The serial-protocol panel display system of claim 19, wherein the drivers include source drivers and gate drivers.

Claim 24 (New) The serial-protocol panel display system of claim 23, each of the source driver includes:

a source input interface, receiving the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the source drivers, and are used for decoding out a plurality of source input signals in the input signals; and
a state-of-the-art source driver, respectively receiving the source input signals.

Claim 25 (New) The serial-protocol panel display system of claim 24, wherein the source input interface comprises:

a decoding unit, according to the serial-protocol image display signal and the clock

signal, decoding into the source input signals and exporting to the state-in-the-art source driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the source drivers, and coupled with the decoding unit for exporting a decoded color information and the clock signal to the state-in-the-art source driver.

Claim 26 (New) The serial-protocol panel display system of claim 24, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 27 (New) The serial-protocol panel display system of claim 23, each of the gate driver includes:

a gate input interface, receiving at least a portion of the serial-protocol image display signal exported from the VGA unit and the clock signal, wherein the serial-protocol image display signal and the clock signal are continuously transmitted to a next one of the gate drivers, and are used for decoding out a plurality of gate input signals in the input signals; and

a state-in-the-art gate driver, respectively receiving the gate input signals.

Claim 28 (New) The serial-protocol panel display system of claim 27, wherein the serial-protocol image display signal includes color signals of red, green, and blue.

Claim 29 (New) The serial-protocol panel display system of claim 28, wherein the

gate input interface includes:

a decoding unit, according to the serial-protocol image display signal and the clock signal, decoding into the gate input signals and exporting to the state-in-the-art gate driver; and

a switch unit, passing the serial-protocol image display signal and the clock signal to the next one of the gate drivers, and coupled with the decoding unit for exporting a clock signal to the state-in-the-art gate driver.

Claim 30 (New) The serial-protocol panel display system of claim 19, wherein the VGA unit includes:

a VGA chip; and
a protocol encoder, coupled with the VGA chip for encoding, and exporting the serial-protocol image display signal and clock signal.